

Supracerebellar transtentorial transcollateral sulcus approach

Meningioma of the lateral ventricles are commonly located in the atrium. Surgical access to such tumors is challenging because of their deep location and proximity to critical neurovascular structures, particularly if situated on the dominant side. Although a number of approaches have been described in the literature, most carry the risk of postoperative neuropsychological, visual, or speech deficits, especially when operating on the dominant hemisphere. The supracerebellar transtentorial transcollateral sulcus (STTCS) approach offers the potential to circumvent functionally important structures, reducing the risk of these approach-related neurological deficits.

Two patients with dominant hemisphere trigonal meningiomas underwent surgical resection with the use of the STTCS approach. Neuronavigation was used to carefully plan the incision, craniotomy, and exposure, and also intraoperatively to orientate the operating surgeon at key steps, particularly when raising the tentorial flap in line with the tumor. Endoscopy was used to provide increased light intensity, an extended viewing angle, and higher magnification in comparison with a microscope. Specially designed tube-shaft instruments were also used to assist with manipulation through the narrow surgical corridor. In both cases, the tumors were fully resected without approach-related morbidity.

The STTCS approach provides good access to tumors located in the trigonal region, reducing the risk of iatrogenic language or visual field deficits. In dominant hemisphere lesions, in the hands of an experienced neurosurgeon, the STTCS approach is an effective alternative to existing techniques ¹⁾.

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Marcus HJ, Sarkar H, Mindermann T, Reisch R. Keyhole supracerebellar transtentorial transcollateral sulcus approach to the lateral ventricle. *Neurosurgery*. 2013 Dec;73(2 Suppl Operative):onsE295-301; discussion onsE301. doi: 10.1227/01.neu.0000430294.16175.20. PubMed PMID: 23624413.

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